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Crop and Weather Report – April 19, 2010

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2012
2011
2010
2009
2008

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Integrated Crop Management NEWS

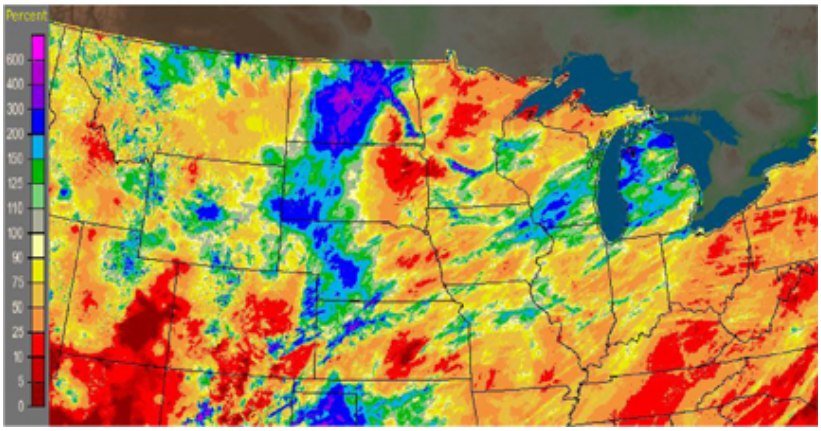
Crop and Weather Report – April 19, 2010

By Elwynn Taylor, Department of Agronomy

Crop planting is progressing rapidly in much, if not most, of the Corn Belt. Nineteen percent of Iowa's expected corn acres were planted as of April 18. This is well ahead of the five-year average of 5 percent, which is where planting was in 2009 on this date. Most of the central production area is also progressing well. The USDA weekly "Crop Progress" report is searchable by state.

Percent of Normal Precipitation since April 1, 2010

NWS Central Region: Current Month to Date Percent of Normal Precipitation.
Valid at 4/19/2010 UTC – Created 4/19/10 19:21 UTC



West Central Iowa has areas receiving less than one-fourth of normal precipitation since April 1. Graphic from http://water.weather.gov/precip/

Seventy percent of Iowa's farm land has received less than usual precipitation during the past three weeks. Temperatures have averaged above normal for all but two days of the past three weeks in most of Iowa. The conditions to date are considered favorable for planting and crop establishment. Forecasts for cooler and moist weather in the western half of the Corn Belt may signal a shift to the persistent pattern of cooler than usual temperatures and above normal precipitation that were characteristic of 2009.

The relatively brief El Nino of the past several months appears to have diminished strength. The atmospheric pressure aspect of the El Nino event retreated to -0.8 standard deviation from (below) normal today (19 April 2010) just five months after reaching the level of significance. This is in keeping with the past two El Nino episodes that persisted three and five months only, somewhat of a departure from the three-year episode experienced in the early 1990s.

The departure of El Nino does not signal adverse impacts on Midwest crop success. Still there is a memory of several instances of a sudden change from

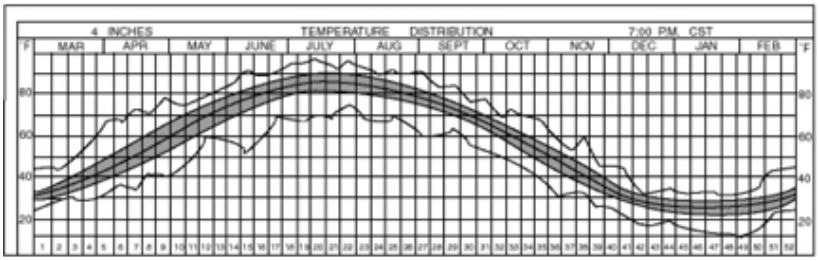
El Nino to La Nina and accompanying drought-like conditions. Historically the chance of below average corn yield for the U.S. is about 45 percent, but during El Nino the chance of a below trend corn yield reduces to 30 percent and during La Nina summers the risk increased to near 70 percent chance of below trend crop yields. Most forecasts give the chance of switching to summertime La Nina odds of less than one chance in five.

Iowa soil temperatures

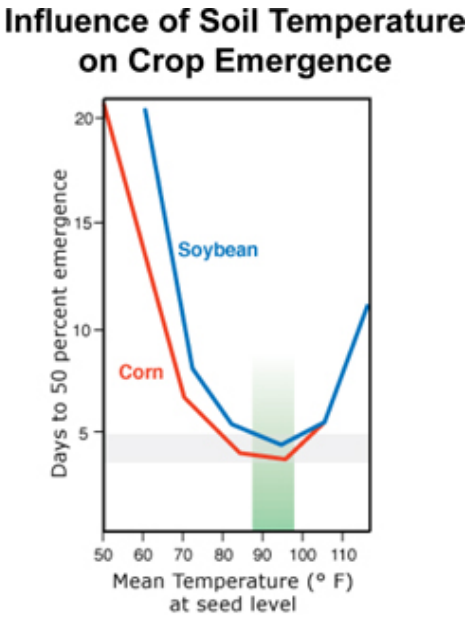
Daily soil temperature reports for Iowa are available online. Observed temperatures are interpolated to provide estimated values for each county. The 2010 soil temperature is exactly on schedule according to the history of observations in Iowa. By the second week of May it is extraordinary to have central Iowa soil temperature drop to 50 F or below. Although some colder than average temperatures must be anticipated between late April and mid-May, each day of normal temperature diminishes the risk of a damaging cooling of soils.

The damage of a soil cool down this time of year is not so much freezing as it is experiencing of temperatures below the threshold for normal crop growth and development. When temperatures are not sufficient for vigorous plant growth the crop becomes increasingly susceptible to injury from agricultural pests (disease, weeds, and insects).

Central Iowa Soil Temperature



Weekly average soil temperatures (beginning with March 1 as the first day of the first week of the climate year) are indicated by the central curve in the graphic. A shaded region about the line shows the historical standard deviation around the average for the week. The irregular lines above and below the shaded track delimit the extremes of temperature observed for specific weeks. The lowest temperature for plant growth is called the base temperature. The base temperature for Midwest corn is very near 50 F. *Data from Iowa State University Department of Agronomy.*



Effect of soil temperature on emergence of corn and soybeans. Emergence is slow at temperatures near 50 F (10 C). Emergence is rapid near 90 F (32.2 C). Graphic assumes that soil moisture is near ideal for plant establishment. *Graphic from Elwynn Taylor*

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